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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,439	07/03/2003	Young-Jin Kim	8021-161 (SS-17860-US)	5112
22150	7590	07/12/2006	EXAMINER	
F. CHAU & ASSOCIATES, LLC 130 WOODBURY ROAD WOODBURY, NY 11797			HAROON, ADEEL	
			ART UNIT	PAPER NUMBER
			2618	

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/613,439	KIM ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Adeel Haroon	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 06 May 2006.
- 2a) This action is **FINAL**.                                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-4,6-12 and 17-22 is/are pending in the application.
- 4a) Of the above claim(s) 6-11,17,18,20 and 22 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-4,12,19 and 21 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

## DETAILED ACTION

### *Response to Amendment*

1. This Office Action is in response to Amendment filed on date: 5/5/06.

Claims 1-4, 6-12, and 17-22 are still pending.

### *Response to Arguments*

2. Applicant's arguments filed 5/5/06 have been fully considered but they are not persuasive.

The applicant argues that Berger does not disclose the added limitations of non-phase shifted first and a non-phase shifted second input signal. The examiner respectfully disagrees. The first and second input signal of Berger is the signal, which is a non-phase shifted input signal as shown by Berger in "The double-sideband signal received from the antenna 1 is applied... with equal phase to two identically constructed parallel branches A and B" (Column 3, lines 38-45). The applicant is correct that the signal coming from element 4 is phase shifted by element 5 in Berger; however, the signal originating from element 4 was interpreted as the applicant claimed local IF signal, which does not include the non-phase shifted limitation.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 12, 19, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Berger (U.S. 4,193,035).

With respect to claims 1 and 12, Berger discloses single sideband mixer in figure 1 and a method for its use. Berger discloses a first mixing portion, element numbers 1a and 1b, which receive a non-phase shifted first input signal and non-phase shifted second input signal,  $u_0$ , and multiplies the input signals by a local IF signal from element number 4, and outputs a first and second output signal (Column 3, lines 54-59). Berger discloses a band-pass filter, element number 2a, which passes the upper sideband signal of first output signal,  $u_1$ , as seen in figure 2b (Column 4, lines 36-43). Berger also discloses a second mixing portion, element numbers 3a and 3b, which receive the output signals, multiplies them by a LO signal from element number 8, and outputs a third and fourth signal,  $u_2$  and  $u'_2$  (Column 5, lines 13-21). Berger further discloses an operating portion, element number 10, which performs a predetermined operation on the

third and fourth signals to output a signal having the same frequency as the LO signal (Column 6, lines 6-7).

With respect to claims 19 and 21, Berger further discloses the first mixing portion comprising first and second mixers, element numbers 1a and 1b, whose input signals are input signals having the same frequency as the local IF signal (Column 3, lines 60-66). Berger also discloses that the second mixing portion comprises a third and fourth mixer, element numbers 3a and 3b.

With respect to claim 2, Berger further discloses a variable gain amplifier, element number 16, operatively connected between the second and fourth mixers, for adjusting the gain and phase of the signals output from the second mixer (Column 5, lines 13-21).

With respect to claim 3, Berger further discloses means for generating the local IF signal, element number 4, and the LO signal, element number 8, in figure 1.

With respect to claim 4, Berger further discloses the operating portion is a subtraction device (Column 6, lines 6-7).

### ***Conclusion***

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adeel Haroon whose telephone number is (571) 272-7405. The examiner can normally be reached on Monday thru Friday, 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AH  
7/5/06

nguyen vo  
7-10-2006

NGUYEN T. VO  
PRIMARY EXAMINER